

Application No. 09/670,490
Amendment, dated June 15, 2004
Reply to Office Action of March 15, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

10-12 AM/15
11-15

Listing of Claims:

1-5. (Canceled)

6. (Original) A method of adaptively adjusting a DSL modem having a receiver that includes an amplifier circuit in response to a high amplitude downstream DSL signal, comprising:

determining whether the amplitude of the downstream DSL signal is above a predetermined threshold; and

attenuating the downstream DSL signal before the downstream DSL signal enters the amplifier circuit if the downstream DSL signal amplitude is above the predetermined threshold.

7. (Original) The method of adaptively adjusting a DSL modem according to claim 6, wherein the step of determining is performed by a digital signal processor and the step of attenuating is performed by a loss circuit.

8. (Original) The method of adaptively adjusting a DSL modem according to claim 6, wherein the step of attenuating further comprises inserting a loss of between 3 dB to 12 dB to the downstream DSL signal amplitude.

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9. (Original) The method of adaptively adjusting a DSL modem according to claim 6, wherein the step of attenuating further comprises switching in a resistor to attenuate the downstream DSL signal.
10. (Canceled)
11. (Currently Amended) ~~The automatically adjustable DSL modem according to claim 10,~~ wherein the first stage receiver further comprises An automatically adjustable DSL modem for adaptively accommodating a high amplitude downstream DSL signal, comprising:
a data processor for determining an amplitude of the downstream DSL signal; and
a first stage receiver coupled to and controlled by the data processor;
the first stage receiver comprising:
an adjustable gain so that the data processor may decrease the gain of the first
stage receiver in response to detecting a high amplitude downstream DSL signal; and
a pair of amplifier circuits, each amplifier circuit including a switching device coupled to and controlled by the data processor for selectively switching in additional resistance to decrease the gain of the amplifier circuit in response to detection of a high amplitude downstream DSL signal.
12. (Currently Amended) The automatically adjustable DSL modem according to claim 11, further comprising an analog front end including a hybrid and a receive filter, the first stage receiver being disposed between the hybrid and the receive filter.

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13. (Currently Amended) An automatically adjustable DSL modem for adaptively accommodating a high amplitude downstream DSL signal, comprising:
a data processor for detecting the amplitude of the downstream DSL signal; and
a passive loss circuit coupled to and controlled by the data processor for attenuating the downstream signal in response to the data processor detecting a high amplitude downstream DSL signal.
14. (Currently Amended) The automatically adjustable DSL modem according to claim 13, further comprising a first stage receiver having at least one amplifier circuit for amplifying the downstream DSL signal, the passive loss circuit being disposed within the first stage receiver to selectively attenuate the downstream DSL signal before the amplifier circuit amplifies the downstream DSL signal.
15. (Currently Amended) ~~The automatically adjustable DSL modem according to claim 13,~~
An automatically adjustable DSL modem for adaptively accommodating a high amplitude downstream DSL signal, comprising:
a data processor for determining an amplitude of the downstream DSL signal; and
a loss circuit coupled to and controlled by the data processor for attenuating the downstream signal in response to the data processor determining that a high amplitude downstream DSL signal is present, wherein the loss circuit further comprises a switching device coupled to a resistor, the switching device being coupled to and controlled by the data processor to switch in the resistor to selectively attenuate the downstream DSL signal.

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16. (Currently Amended) A DSL modem for converting a downstream DSL analog signal to digital data and for converting digital data to an analog signal, comprising:

a data processor for detecting the amplitude of the downstream analog signal, the data processor being configured to determine whether the amplitude of the downstream analog signal is greater than a predetermined threshold;

an analog front end coupled to and controlled by the data processor for receiving the downstream analog signals;

the data processor being configured to adjust the analog front end according to whether the amplitude of the downstream signal is greater than a predetermined threshold to prevent the analog front end from being saturated by high amplitude downstream signals; and

a passive loss circuit coupled to and controlled by the data processor for attenuating the downstream signal in response to the data processor detecting a downstream signal greater than the predetermined threshold.

17-19. (Canceled)

20. (Original) A system for adaptively adjusting a DSL modem having a receiver that includes an amplifier circuit in response to a high amplitude downstream DSL signal, comprising:

means for determining whether the amplitude of the downstream DSL signal is above a predetermined threshold; and

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means for attenuating the downstream DSL signal before the downstream DSL signal enters the amplifier circuit if the downstream DSL signal amplitude is above the predetermined threshold.

21. (Canceled)

22. (Original) A method for adaptively adjusting a DSL modem receiver in response to a high amplitude downstream DSL signal, comprising:

measuring the amplitude of the downstream DSL signal;
selectively attenuating the downstream DSL signal before the downstream DSL signal enters the amplifier circuit according to the measured amplitude of the downstream DSL signal to prevent the downstream DSL signal from saturating the receiver.